

WHAT IS CLAIMED IS:

1. A method for treating neuropathic pain in a patient in need thereof comprising administering to the patient a composition comprising an amount of an opioid antagonist effective to alleviate the neuropathic pain.
2. The method of claim 1 wherein the composition additionally comprises an opioid agonist and optionally a pharmaceutically acceptable carrier or excipient.
3. The method of claim 1 or 2 wherein the amount of the antagonist is less than an effective antagonistic amount.
4. The method of claim 2 wherein the excitatory opioid receptor antagonist or the agonist is present as a pharmaceutically acceptable salt.
5. The method of claim 1 or 2 wherein the antagonist is naloxone.
6. The method of claim 1 or 2 wherein the antagonist is naltrexone.
7. The method of claim 1 or 2 wherein the antagonist is nalmefene.
8. The method of claim 2 wherein the amount of the agonist is an analgesic or a subanalgesic amount.
9. The method of claim 2 wherein the agonist is morphine, hydrocodone, oxycodone, codeine, fentanyl, alfentanil, hydromorphone, meperidine, methadone, oxymorphone, propoxyphene, or tramadol.
10. The method of claim 2 wherein the agonist is morphine.
11. The method of claim 2 wherein the agonist is hydrocodone.
12. The method of claim 2 wherein the agonist is oxycodone.
13. The method of claim 2 wherein the agonist is tramadol.

14. The method of claim 2 wherein the antagonist is naltrexone and the agonist is morphine.
15. The method of claim 2 wherein the antagonist is naltrexone and the agonist is oxycodone.
16. The method of claim 2 wherein the antagonist is naltrexone and the agonist is hydrocodone.
17. The method of claim 2 wherein the antagonist is naltrexone and the agonist is tramadol.
18. The method of claim 2 wherein the antagonist is nalmeferone and the agonist is morphine.
19. The method of claim 2 wherein the antagonist is nalmeferone and the agonist is oxycodone.
20. The method of claim 2 wherein the antagonist is nalmeferone and the agonist is hydrocodone.
21. The method of claim 2 wherein the antagonist is nalmeferone and the agonist is tramadol.
22. The method of claim 1 or 2 wherein the composition further comprises a therapeutically effective amount of at least one anticonvulsant.
23. The method of claim 1 or 2 wherein the composition further comprises an anticonvulsant that is lamotrigine, gabapentin, valproic acid, topiramate, famotidine, phenobarbital, diphenylhydantoin, phenytoin, mephentoin, ethotoin, mephobarbital, primidone, carbamazepine, ethosuximide, methsuximide, phensuximide, trimethadione, benzodiazepine, phenacetamide, acetazolamide, progabide, clonazepam, divalproex sodium, magnesium sulfate injection, metharbital, paramethadione, phenytoin sodium, valproate sodium, clobazam, sulthiame, dilantin, diphenylan, or L-5-hydroxytryptophan.

24. The method of claim 1 or 2 wherein the composition further comprises a therapeutically effective amount of at least one non-narcotic analgesic.

25. The method of claim 1 or 2 wherein the composition further comprises a therapeutically effective amount of non-steroidal anti-inflammatory drug.

26. The method of claim 1 or 2 wherein the composition further comprises a nonsteroidal anti-inflammatory drug that is aspirin, diclofenac, diflusal, etodolac, fenbufen, fenoprofen, flufenisal, flurbiprofen, ibuprofen, indomethacin, ketoprofen, ketorolac, meclofenamic acid, mefenamic acid, nabumetone, naproxen, oxaprozin, phenylbutazone, piroxicam, sulindac, tolmetin, or zomepirac.

27. The method of claim 1 or 2 wherein the composition further comprises tricyclic antidepressant that is amitriptyline, imipramine, desipramine or nortriptyline.

28. The method of claim 1 or 2 wherein the composition further comprises a therapeutically effective amount of at least one glutamate receptor antagonist.

29. The method of claim 1 or 2 wherein the composition further comprises a glutamate receptor antagonist that is that is ketamine, MK801, memantine, dextromethorphan, dextrorphan, LY293558, LY382884, amantadine, agmatine, aptiganel, gavestinel, selfotel, 7-chlorokynurenate, MRZ 2/579, MDL 105,519, riluzole, CPP, AP5, APV, NBQX, CNQX or trans-ACPD.

30. The method of claim 1 or 2 wherein the composition further comprises a therapeutically effective amount of at least one anti-dynorphin agent.

31. The method of claim 1 or 2 wherein the composition further comprises an anti-dynorphin agent that is anti-dynorphin antibodies, soluble kappa opioid receptors, or soluble kappa opioid receptor fusion proteins.

32. The method of claim 1 or 2 wherein the composition further comprises a therapeutically effective amount of at least one nicotinic receptor antagonist.

33. The method of claim 1 or 2 wherein the composition further comprises a therapeutic effective amount of at least one local anesthetic.

34. The method of claim 1 or 2 wherein the composition further comprises a local anesthetic that is bupivacaine hydrochloride, chloroprocaine hydrochloride, dibucaine, dibucaine hydrochloride, etidocaine hydrochloride, lidocaine, lidocaine hydrochloride, mepivacaine hydrochloride, piperocaine hydrochloride, prilocaine hydrochloride, procaine hydrochloride, propoxycaine hydrochloride tetracaine, or tetracaine hydrochloride.

35. The method of claim 1 or 2 wherein the composition further comprises at least one colloidal dispersion system.

36. The method of claim 1 or 2 wherein the composition further comprises at least one additive or preservative.

37. The method of claim 1 or 2 wherein the composition further comprises at least one pharmaceutically acceptable diluent.

38. The method of claim 1 or 2 wherein the composition further comprises at least one binder.

39. The method of claim 1 or 2 wherein the composition further comprises at least one plasticizer.

40. The method of claim 1 or 2 wherein the pharmaceutically acceptable carrier in the composition is a slow release agent.

41. The method of claim 1 or 2 wherein the composition is administered orally to the patient.

42. The method of claim 1 or 2 wherein the composition is administered intravenously to the patient.

43. The method of claim 1 or 2 wherein the composition is administered intrathecally or epidurally to the patient.

44. The method of claim 1 or 2 wherein the composition is administered intramuscularly to the patient.

45. The method of claim 1 or 2 wherein the composition is administered subcutaneously to the patient.

46. The method of claim 1 or 2 wherein the composition is administered perineurally to the patient.

47. The method of claim 1 or 2 wherein the composition is administered intradermally to the patient.

48. The method of claim 1 or 2 wherein the composition is administered topically or transcutaneously to the patient.

49. The method of claim 1 or 2 wherein the patient is a mammal.

50. The method of claim 1 or 2 wherein the patient is a human.

51. The method of claim 1 or 2 wherein the administration is from one time daily to four times daily.

52. The method of claim 1 or 2 wherein the administration is from two times daily to four times daily.

53. The method of claim 1 or 2 wherein the administration is from one time daily to two times daily.

54. The method of claim 1 or 2 wherein alleviation of the neuropathic pain is indicated by alleviation of allodynia.

55. The method of claim 1 or 2 wherein alleviation of the neuropathic pain is indicated by alleviation of hyperalgesia.

56. The method of claim 1 or 2 wherein alleviation of the neuropathic pain is indicated by alleviation of spontaneous burning pain.

57. The method of claim 1 or 2 wherein alleviation of the neuropathic pain is indicated by alleviation of phantom pain.

58. The method of claim 1 or 2 wherein alleviation of the neuropathic pain is indicated by alleviation of hyperesthesia.

59. The method of claim 1 or 2 wherein the neuropathic pain is associated with migraine.

60. The method of claim 1 or 2 wherein the neuropathic pain is associated with diabetes.

61. The method of claim 1 or 2 wherein the neuropathic pain is associated with diabetic neuropathy.

62. The method of claim 1 or 2 wherein the neuropathic pain is associated with shingles.

63. The method of claim 1 or 2 wherein the neuropathic pain is associated with burn injury.

64. The method of claim 1 or 2 wherein the neuropathic pain is associated with ophthalmic injury.

65. The method of claim 1 or 2 wherein the neuropathic pain is associated with oral nerve injury or damage.

66. The method of claim 1 or 2 wherein the neuropathic pain is associated with oral nerve injury and wherein the oral nerve injury is caused by endodontic procedures.

67. The method of claim 1 or 2 wherein the neuropathic pain is associated with sensory nerve injury or damage.

68. The method of claim 1 or 2 wherein the neuropathic pain is associated with reflex sympathetic dystrophy (RSD).

69. The method claim 1 or 2 wherein the neuropathic pain is associated with post-herpetic neuralgia.

70. The method of claim 1 or 2 wherein the neuropathic pain is associated with arthritis.

71. The method of claim 1 or 2 wherein the neuropathic pain is associated with cancer.

72. The method of claim 1 or 2 wherein the neuropathic pain is not associated with the administration of a therapeutic agent.

73. A method for treating neuropathic pain in a patient in need thereof comprising administering to the patient a composition an amount of naltrexone, nalmefene or naloxone from about 0.000001 mg to less than about 1.0 mg and an amount of morphine, oxycodone, oxymorphone, hydrocodone or tramadol from about 0.1 mg to about 300 mg.

74. A method for treating neuropathic pain in a patient in need thereof comprising administering to the patient a composition an amount of naltrexone, nalmefene or naloxone from about 1 fg to less than about 1 ng and an amount of morphine, oxycodone, oxymorphone, hydrocodone or tramadol from about 0.1 mg to about 300 mg.

75. A method for treating hyperesthesia in a patient in need thereof comprising administering to the patient a composition comprising an amount of an opioid antagonist effective to alleviate the hyperesthesia.

76. A method for treating hyperalgesia in a patient in need thereof comprising administering to the patient a composition comprising an amount of an opioid antagonist effective to alleviate the hyperalgesia.

77. A method for treating allodynia in a patient in need thereof comprising administering to the patient a composition comprising an amount of an opioid antagonist effective to alleviate the allodynia.

78. A method for treating spontaneous burning pain in a patient in need thereof comprising administering to the patient a composition comprising an amount of an opioid antagonist effective to alleviate the spontaneous burning pain.

79. A method for treating phantom pain in a patient in need thereof comprising administering to the patient a composition comprising an amount of an opioid antagonist effective to alleviate the phantom pain.

80. A method for treating pain in a subject with neuropathic pain comprising administering to the subject an opioid agonist and an opioid antagonist, wherein the antagonist is administered in an amount effective to enhance the neuropathic pain-alleviating potency of the agonist.

81. The method of claim 80 wherein the potency of the agonist is measured by alleviation of hyperesthesia.

82. The method of claim 80 wherein the potency of the agonist is measured by alleviation of hyperalgesia.

83. The method of claim 80 wherein the potency of the agonist is measured by alleviation of allodynia.



84. The method of claim 80 wherein the potency of the agonist is measured by alleviation of spontaneous burning pain.

85. The method of claim 80 wherein the potency of the agonist is measured by alleviation of phantom pain.

86. The method of claim 80 wherein the amount of the agonist is an analgesic or subanalgesic amount.

87. The method of claim 80 wherein the agonist is morphine.

88. The method of claim 80 wherein the agonist is oxycodone.

89. The method of claim 80 wherein the agonist is hydrocodone.

90. The method of claim 80 wherein the agonist is oxymorphone.

91. The method of claim 80 wherein the agonist is hydromorphone.

92. The method of claim 80 wherein the agonist is tramadol.

93. The method of claim 80 wherein the antagonist is nalmeferene.

94. The method of claim 80 wherein the antagonist is naltrexone.

95. The method of claim 80 wherein the antagonist is naloxone.

96. The method of claim 80 wherein the mode of administration is oral.

97. The method of claim 80 wherein the mode of administration is intravenous.

98. The method of claim 80 wherein the mode of administration is intrathecal or epidural.

99. The method of claim 80 wherein the mode of administration is intramuscular.

100. The method of claim 80 wherein the mode of administration is subcutaneous.

101. The method of claim 80 wherein the mode of administration is perineural.

102. The method of claim 80 wherein the mode of administration is intradermal.

103. The method of claim 80 wherein the mode of administration is topical.

104. The method of claim 80 wherein the mode of administration is transcutaneous.

105. The method of claim 80 wherein the agonist is oxycodone and the antagonist is naltrexone.

106. The method of claim 80 wherein the agonist is morphine and the antagonist is naltrexone.

107. The method of claim 80 wherein the agonist is oxycodone and the antagonist is nalmefene.

108. The method of claim 80 wherein the agonist is morphine and the antagonist is nalmefene.

109. The method of claim 80 wherein the agonist is oxycodone and the antagonist is naloxone.

110. The method of claim 80 wherein the agonist is morphine and the antagonist is naloxone.

111. The method of claim 80 wherein the amount of the agonist is from about 0.1 mg to about 300 mg.

112. The method of claim 80 wherein the amount of the antagonist is from about 0.000001 mg to about or less than about 1 mg.

113. The method of claim 80 wherein the amount of the antagonist is additionally effective to alleviate a tolerance, dependence, addiction or withdrawal effect of the agonist.

114. The method of claim 80 wherein the amount of the antagonist administered is at least 50 to 100 fold less than the amount of the agonist administered.

115. The method of claim 80 wherein the amount of the antagonist administered is at least 100 to 1000 fold less than the amount of the agonist administered.

116. The method of claim 80 wherein the amount of the antagonist administered is at least more than 40 fold less than the amount of the agonist administered.

117. The method of claim 80 wherein the amount of the antagonist administered is at least more than 50 fold less than the amount of the agonist administered.

118. The method of claim 80 wherein the amount of the antagonist administered is at least more than 100 fold less than the amount of the agonist administered.

119. The method of claim 80 wherein the amount of the antagonist administered is at least more than 1000 fold less than the amount of the agonist administered.

120. The method of claim 80 wherein the amount of the antagonist administered is at least more than 10,000 fold less than the amount of the agonist administered.

121. The method of claim 80 wherein the amount of the antagonist administered is at least more than 100,000 fold less than the amount of the agonist administered.

122. The method of claim 80 wherein the amount of the antagonist administered is at least more than 1,000,000 fold less than the amount of the agonist administered.


123. The method of claim 80 wherein the amount of the antagonist administered is at least more than 10,000,000 fold less than the amount of the agonist administered.

124. The method of claim 80 wherein the amount of the antagonist administered is at least more than 100,000,000 fold less than the amount of the agonist administered.

125. The method of claim 80 wherein the amount of the antagonist administered is at least more than 1,000,000,000 fold less than the amount of the agonist administered.

126. The method of claim 80 wherein the amount of the antagonist administered is at least more than 10,000,000,000 fold less than the amount of the agonist administered.

127. A method for enhancing the potency of an opioid agonist comprising administering to a subject with neuropathic pain an amount of the agonist and an amount of an opioid antagonist effective to enhance the neuropathic pain-alleviating potency of the agonist.



128. The method of claim 127 wherein the neuropathic pain-alleviating potency of the agonist by the antagonist is measured by alleviation of hyperesthesia.

129. The method of claim 127 wherein the neuropathic pain-alleviating potency of the agonist by the antagonist is measured by alleviation of hyperalgesia.

130. The method of claim 127 wherein the neuropathic pain-alleviating potency of the agonist by the antagonist is measured by alleviation of allodynia.

131. The method of claim 127 wherein the neuropathic pain-alleviating potency of the agonist by the antagonist is measured by alleviation of spontaneous burning pain.

132. The method of claim 127 wherein the neuropathic pain-alleviating potency of the agonist by the antagonist is measured by alleviation of phantom pain.

133. The method of claim 127 wherein the amount of the agonist is an analgesic or subanalgesic amount.

134. The method of claim 127 wherein the agonist is morphine.

135. The method of claim 127 wherein the agonist is oxycodone.

136. The method of claim 127 wherein the agonist is hydrocodone.

137. The method of claim 127 wherein the agonist is oxymorphone.

138. The method of claim 127 wherein the agonist is hydromorphone.

139. The method of claim 127 wherein the agonist is tramadol.

140. The method of claim 127 wherein the antagonist is nalmeferene.

141. The method of claim 127 wherein the antagonist is naltrexone.

142. The method of claim 127 wherein the antagonist is naloxone.

143. The method of claim 127 wherein the mode of administration is oral.
144. The method of claim 127 wherein the mode of administration is intravenous.
145. The method of claim 127 wherein the mode of administration is intrathecal or epidural.
146. The method of claim 127 wherein the mode of administration is intramuscular.
147. The method of claim 127 wherein the mode of administration is subcutaneous.
148. The method of claim 127 wherein the mode of administration is perineural.
149. The method of claim 127 wherein the mode of administration is intradermal.
150. The method of claim 127 wherein the mode of administration is topical.
151. The method of claim 127 wherein the mode of administration is transcutaneous.
152. The method of claim 127 wherein the agonist is oxycodone and the antagonist is naltrexone.
153. The method of claim 127 wherein the agonist is morphine and the antagonist is naltrexone.
154. The method of claim 127 wherein the agonist is oxycodone and the antagonist is nalmeferene.
155. The method of claim 127 wherein the agonist is morphine and the antagonist is nalmeferene.

156. The method of claim 127 wherein the agonist is oxycodone and the antagonist is naloxone.

157. The method of claim 127 wherein the agonist is morphine and the antagonist is naloxone.

158. The method of claim 127 wherein the amount of the agonist is from about 0.1 mg to about 300 mg.

159. The method of claim 127 wherein the amount of the antagonist is from about 0.000001 mg to about or less than about 1 mg.

160. The method of claim 127 wherein the amount of the antagonist is additionally effective to alleviate a tolerance, dependence, addiction or withdrawal effect of the agonist.

161. The method of claim 127 wherein the amount of the antagonist administered is at least 50 to 100 fold less than the amount of the agonist administered.

162. The method of claim 127 wherein the amount of the antagonist administered is at least 100 to 1000 fold less than the amount of the agonist administered.

163. The method of claim 127 wherein the amount of the antagonist administered is at least more than 40 fold less than the amount of the agonist administered.

164. The method of claim 127 wherein the amount of the antagonist administered is at least more than 50 fold less than the amount of the agonist administered.

165. The method of claim 127 wherein the amount of the antagonist administered is at least more than 100 fold less than the amount of the agonist administered.

166. The method of claim 127 wherein the amount of the antagonist administered is at least more than 1000 fold less than the amount of the agonist administered.

167. The method of claim 127 wherein the amount of the antagonist administered is at least more than 10,000 fold less than the amount of the agonist administered.

168. The method of claim 127 wherein the amount of the antagonist administered is at least more than 100,000 fold less than the amount of the agonist administered.

169. The method of claim 127 wherein the amount of the antagonist administered is at least more than 1,000,000 fold less than the amount of the agonist administered.

170. The method of claim 127 wherein the amount of the antagonist administered is at least more than 10,000,000 fold less than the amount of the agonist administered.

171. The method of claim 127 wherein the amount of the antagonist administered is at least more than 100,000,000 fold less than the amount of the agonist administered.

172. The method of claim 127 wherein the amount of the antagonist administered is at least more than 1,000,000,000 fold less than the amount of the agonist administered.

173. The method of claim 127 wherein the amount of the antagonist administered is at least more than 10,000,000,000 fold less than the amount of the agonist administered.